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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,969	09/15/2003	Yasuhiro Nito	03500.017556.	8560

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EXAMINER

SHAH, MANISH S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/661,969	Applicant(s) NITO ET AL.	
	Examiner Manish S. Shah	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-9,11-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-9,11-18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 & 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (# US 5695820) in view of Matzinger (# US 6020397).

Davis et al. discloses a set of an ink (column: 9, line: 45-65) and reaction solution (treating solution) including the ink containing a coloring material in a dissolved or dispersed state, and reaction solution capable of destabilizing the dissolved or dispersed state of the coloring material in the ink (column: 3, line: 1-15); wherein the reaction solution including a polyvalent metal ion (column: 4, line: 1-16), an organic solvent, a buffer (column: 7, line: 15-17) and metal ion derived from the buffer (column: 8, line: 1-20), has a pH of 2 or higher but lower than 7 (column: 6, line: 8-11), and has a buffering action for variation in pH. They also disclose that the amount of polyvalent metal salt is from 1 to 11% by weight based on the total amount of the reaction solution (column: 4, line: 38-50). They also disclose that the reaction solution further contains a strong acid ion (column: 6, line: 18-42).

Davis et al. differs from the claim of the present invention in that the maintain pH variation within the range of 0.5 before and after the addition of the 1.0 ml of 0.1 N aqueous lithium hydroxide solution to 50 ml of the reaction solution.

Matzinger teaches that to get the printed image of excellent quality that are wet-rub resistance and accent marker resistant, the pH of the reaction solution and ink composition is controlled by the lithium hydroxide (column: 7, line: 9-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the liquid composition and ink composition of Davis et al. by the aforementioned teaching of Matzinger et al. in order to have the printed image of excellent quality that are wet-rub resistance and accent marker resistant.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the pH controlling agent of Matzinger to control the pH variation of 0.5, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).

2. Claims 7-9 & 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto (# US 6341854) in view of Matzinger (# US 6020397).

Takemoto discloses an inkjet recording apparatus including a recording head for discharging ink, and ink cartridge for storing ink; ink supply means for supplying ink from cartridge to the recording head and means for supplying a reaction solution (see figure: 1), wherein the reaction solution including a polyvalent metal ion (column: 5, line: 1-40),

an organic solvent (column: 6, line: 25-45), a buffer (see Examples) and metal ion derived from the buffer (see Examples), has a pH of 2 or higher (see Examples), and has a buffering action for variation in pH. They also disclose that the amount of polyvalent metal salt is from 0.1 to 40% by weight based on the total amount of the reaction solution (column: 5, line: 30-40). They also disclose that the reaction solution further contains a strong acid ion (see Examples). They also disclose that the pH of the reaction solution is lower than the pH of the ink (see Examples).

Takemoto differs from the claim of the present invention in that (1) the maintain pH variation within the range of 0.5 before and after the addition of the 1.0 ml of 0.1 N aqueous lithium hydroxide solution to 50 ml of the reaction solution. (2) The viscosity of the reaction solution is greater than the viscosity of the ink. (3) The reaction solution is applied to the medium by coating roller.

Matzinger teaches that to get the printed image of excellent quality that are wet-rub resistance and accent marker resistant, the pH of the reaction solution and ink composition is controlled by the lithium hydroxide (column: 7, line: 9-20). They also teach that the viscosity of the reaction solution is greater than the viscosity of ink (see Examples). They also teach that the reaction solution is applied to the medium by coating roller or spray (column: 8, line: 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the liquid composition and ink composition of Takemoto by the aforementioned teaching of Matzinger et al. in order to have the printed image of excellent quality that are wet-rub resistance and accent marker resistant.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the pH controlling agent of Matzinger to control the pH variation of 0.5, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).

3. Claims 16-18 & 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (# US 5695820) in view of Matzinger (# US 6020397).

Davis et al. discloses an image recording method including a steps of coating the recording medium with a reaction solution capable of destabilizing the dissolved or dispersed state of a coloring material in an ink and steps of coating the ink on recording medium by the inkjet method, wherein the reaction solution including a polyvalent metal ion (column: 4, line: 1-16), an organic solvent, a buffer (column: 7, line: 15-17) and metal ion derived from the buffer (column: 8, line: 1-20), has a pH of 2 or higher but lower than 7 (column: 6, line: 8-11), and has a buffering action for variation in pH. They also disclose that the amount of polyvalent metal salt is from 1 to 11% by weight based on the total amount of the reaction solution (column: 4, line: 38-50). They also disclose that the reaction solution further contains a strong acid ion (column: 6, line: 18-42). They also disclose that the pH of the reaction solution is lower than the pH of the ink (column: 6, line: 7-11).

Davis et al. differs from the claim of the present invention in that (1) the maintain pH variation within the range of 0.5 before and after the addition of the 1.0 ml of 0.1 N

aqueous lithium hydroxide solution to 50 ml of the reaction solution. (2) The viscosity of the reaction solution is greater than the viscosity of the ink. (3) The reaction solution is applied to the medium by coating roller.

Matzinger teaches that to get the printed image of excellent quality that are wet-rub resistance and accent marker resistant, the pH of the reaction solution and ink composition is controlled by the lithium hydroxide (column: 7, line: 9-20). They also teach that the viscosity of the reaction solution is greater than the viscosity of ink (see Examples). They also teach that the reaction solution is applied to the medium by coating roller or spray (column: 8, line: 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the liquid composition and ink composition of Davis et al. by the aforementioned teaching of Matzinger et al. in order to have the printed image of excellent quality that are wet-rub resistance and accent marker resistant.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the pH controlling agent of Matzinger to control the pH variation of 0.5, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).

Response to Arguments

4. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manish S. Shah
Examiner
Art Unit 2853


MSS
10/1/04